FLIR A655sc

High resolution science grade LWIR camera

The A655sc helps engineers, researchers, and scientists see and accurately quantify thermal patterns, leakage, dissipation, and other heat-related factors in equipment, products, and processes in real time.

IMAGE QUALITY AND THERMAL SENSITIVITY

FLIR A655sc is equipped with an uncooled, maintenance free, Vanadium Oxide (VoX) microbolometer detector that produces thermal images of 640 x 480 Pixels. These pixels generate crisp and clear detailed images that are easy to interpret with high accuracy. The FLIR A655sc will make temperature differences as small as 50 mK clearly visible.

HIGH SPEED WINDOWING

The FLIR A655sc provides 14-bit data up to 50 frames per second at full frame 640 × 480 resolution. It has a high speed windowing function that increases the output frame rate up to 200 Hz at a 640 x 120 pixel window.

GIGE VISION™ STANDARD COMPATIBILITY

GigE Vision allows fast image transfer using low cost standard cables up to 100 meters.With GigE Vision, hardware and software from different vendors can integrate seamlessly over gigabit ethernet connections.

GENICAM™ PROTOCOL SUPPORT

GenICam creates a common application programming interface (API) for cameras regardless of the interface technology or features implemented. Because the API for GenICam cameras will always be the same, cameras like the A655sc camera can be easily integrated into third party software.

SOFTWARE

FLIR A655sc camera works seamlessly with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera.

MATHWORKS® MATLAB

Control and capture data directly into MathWorksR Matlab software for advanced image analysis and processing.

KEY FEATURES

- Uncooled microbolometer: 640 x 480 pixels

- Gigabit ethernet and usb interface

* Close-up and telephoto lenses available

- ResearchIR max software included

* Matlab compatible
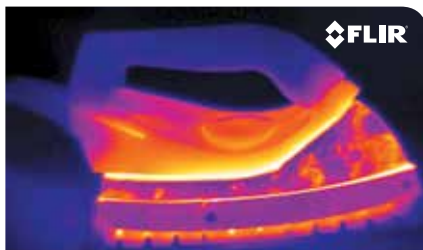
Thermal quality control on domestic appliances

Motorcycle break testing

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Imaging Specifications

System Overview	FLIR A655sc
Detector Type	Uncooled Microbolometer
Spectral Range	7.5 – 14.0 µm
Resolution	640 × 480
Detector Pitch	17 µm
NETD	<30 mK
Imaging	
Time Constant	<8 ms
Frame Rate (Full Window)	50 Hz
Subwindow Mode	User-Selectable 640 × 240 or 640 × 120
Maximum Frame Rate (@ Min. Window)	200 Hz (640 × 120)
Dynamic Range	14-bit
Digital Data Streaming	Gigabit Ethernet (50/100/200 Hz) USB (25/50/100 Hz)
Command and Control	Gigabit Ethernet, USB
Measurement	
Standard Temperature Range	−40°C to 150°C (−40°F to 302°F) 100°C to 650°C (212°F to 1,202°F)
Optional Temperature Range	Up to 2,000°C (3,632°F)
Accuracy	±2°C or ±2% of Reading
Optics	
Camera f/#	f/1.0
Available Lenses	6.5 mm (80°), 13.1 mm (45°), 24.6 mm (25°), 41.3 mm (15°), 88.9 mm (7°)
Focus	Automatic or Manual (Motorized)
Close-up / Microscopes	Close-up 25 µm, 50 µm, 100 µm
Image Presentation	
Digital Data	Via PC Using ResearchIR Software
General	
Operating Temperature Range	-15°C to +50°C (572°F to 3,632°F)
Storage Temperature Range	-40°C to 70°C (-40°F to 158°F)
Encapsulation	IP 30 (IEC 60529)
Bump / Vibration	25 g (IEC 60068-2-29) / 2 g (IEC 60068-2-6)
Power	12/24 VDC, 24 W Absolute Max.
Weight	0.9 kg (1.98 lb)
Size (L × W × H) w/o Lens	216 × 73 × 75 mm (8.5 × 2.9 × 3.0 in)
Mounting	¼"-20 (on three sides), 2 x M4 (on three sides)

Power Connector, Screw Terminal 2-pole: 10-30 VDC, <10W

Gigabit Ethernet Port, 1000 mB, RJ-45 Connector: Control and image streaming

USB H2 Connector: Camera control and image streaming

Digital I/O Connector, Screw Terminal 6-pole: Digital Out: 2 outputs, opto-isolated, 10-30V supply, 100mA. Digital In: 2 inputs, opto-isolated, 10-30 V.

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